



Shaping the Future of Aerospace

2018 AIAA KEY ISSUES AND RECOMMENDATIONS

As the world’s largest aerospace technical society serving a diverse range of nearly 30,000 individual members from 85 countries and 95 corporate members, the American Institute of Aeronautics and Astronautics (AIAA) urges Congress to enact and sustain policies that will enhance a robust, technologically-proficient aerospace and defense (A&D) sector essential to our continued national competitiveness and security.

The A&D industry is critical to our nation’s well-being, providing major contributions to national defense and homeland security, the economy, our quality of life, and education and learning. According to the Aerospace Industries Association, in 2016 the sector:

SUPPORTED MORE THAN



**2.4
MILLION JOBS**

(845,500 DIRECTLY EMPLOYED)
AND 13 PERCENT OF THE
MANUFACTURING BASE

GENERATED NEARLY



**\$872
BILLION**

IN SALES REVENUE AND
\$422 BILLION MORE FROM THE
INDUSTRY’S SUPPLY CHAIN

CREATED A TOTAL ECONOMIC
CONTRIBUTION OF



**\$307
BILLION**

OR 1.8 PERCENT OF THE GDP

PROVIDED TAX REVENUE OF



**\$62.6
BILLION**

TO FEDERAL, STATE, AND
LOCAL GOVERNMENTS

EXPORTED A RECORD



**\$146
BILLION**

IN GOODS, WHICH IS 10 PERCENT
OF ALL U.S. EXPORTS

PROVIDED A TOP
NET-EXPORTING INDUSTRY WITH
A POSITIVE TRADE BALANCE OF



**\$90.3
BILLION**

Each year, AIAA develops a set of key issues that become the focal point of the Institute’s engagement with Congress, the administration, and state and local officials. We strongly believe these issues, including associated actionable recommendations, are crucial to the continued health of our industry and of our nation. As we strive to represent our membership and our industry, we also welcome and encourage feedback—our motive is to strengthen our profession and serve as a valued resource for decision makers.

American Institute of Aeronautics and Astronautics

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FUNDING STABILITY AND COMPETITIVENESS

The A&D industry is facing one of its greatest challenges in history as Congress and the administration grapple with mounting national debt and balancing the federal budget. At the same time, our adversaries are investing heavily in military modernization, while the United States confronts significant strategic risks due to continuing funding uncertainty and the use of arbitrary budget caps through sequestration.

Moreover, the usage of continuing resolutions, passage of omnibus appropriations packages, and threat of government shutdowns have become commonplace. Congress has not funded the federal government by the start of the new fiscal year in over 20 years. This unpredictable fiscal environment creates short-term perspectives, increasing the risk of delayed aerospace initiatives and the constant threat of important programs being terminated or scaled back to suboptimal levels. A return to a regular appropriations process coupled with a long-term perspective is needed immediately so that the nation, including the A&D industrial base, can begin work on initiatives critical to a secure and economically robust future.

RECOMMENDATIONS:

- › Permanently eliminate sequestration.
- › Provide the DOD with stable and predictable funding that supports efficient and effective multi-year acquisitions and operations—critical to readiness and results.
- › Provide long-term authorization and appropriations with top-line increases in the out years to properly fund all NASA missions in a balanced and predictable manner in order to meet short- and long-term program and mission requirements. This will help maintain our nation's leadership in space exploration and scientific discovery, while also making critical advances in aeronautics research and technology development.
- › Provide long-term authorization and appropriations with top-line increases in the out years to properly fund the FAA in order to successfully implement the Next Generation Air Transportation System, commercial space transportation operations, safely integrate unmanned aerial vehicles into the National Airspace System, and complete other high-priority FAA modernization initiatives.
- › Provide trade policies and a regulatory environment that assures that U.S. companies can effectively compete in the global marketplace.



R&D AND INNOVATION

U.S. leadership in aerospace, as in any other industrial sector, is not a birthright. Since the dawn of aviation, through the advent of the space age, and the most recent rise of new space opportunities, the United States has been the world leader in the aerospace industry. In order to assure U.S. leadership—such as during the Cold War-era Space Race—both government and industry have stepped up to their respective responsibilities to fund and perform research and development (R&D) through which a myriad of aerospace-related innovations have been realized.

Despite the recent uptick in government funding for R&D to support the A&D industry, the overall trend has been downward. While the United States still represents nearly half of global aerospace R&D spending, our foreign competitors—including China, Japan, and some Europe countries—continue to aggressively invest significantly more than the U.S. in technologies critical to aerospace and defense. Sufficient and sustained R&D investments are therefore crucial to maintain our preeminence in this sector. Just as important is moving technologies from the laboratory into the marketplace through innovative new products and services which fuel growth, exports, and expanded employment.

RECOMMENDATIONS:

- › Sustain existing funding levels and invest in new experimental (ground and flight testing) and computational infrastructure for military and commercial R&D. This would help ensure improved quality and reduced systems-development costs and timelines by providing the right tools for qualified staff to identify and remove defects early in the development process.
- › Provide sufficient and stable funding for federal labs specifically charged with helping industry accelerate innovation and develop products in critical areas, such as advanced materials, robotics, manufacturing processes, and battery and other clean-energy technologies.
- › Increase DOD's R&D budget to provide sufficient funding to ensure the United States maintains long-term technical leadership and qualitative technical superiority.
- › Promote greater interaction and cooperative arrangements between federal labs and research centers, academia, and industry to develop technologies which are needed for innovation and growth. Additionally, adopt a holistic approach to encourage the sharing of ideas, enhanced utilization of capabilities, improved quality from using the right tools, and optimization and cost-control at the national level.
- › Offer incentives for corporate research and commercialization of that research into new products and services.
- › Support robust, long-term federal civil aeronautics and space research and technology initiatives funded at a level that will ensure U.S. leadership in aeronautics and space, which includes technology demonstrations.



WORKFORCE DEVELOPMENT AND ENHANCEMENT

The U.S. A&D industry currently enjoys a prominent position in terms of global competitiveness and technical superiority. However, there are justifiable concerns about its future standing as the industry faces impending retirements; a shortage of highly trained technical graduates; an underrepresentation of women and minorities; significant delays in processing security clearances, often exceeding 24 months; and increasingly serious competition from both allies and adversaries.

According to Aviation Week & Space Technology's 2017 Aerospace & Defense Workforce Study, nearly 30 percent of the nation's A&D workforce is over the age of 55 and 22 percent are younger than 35. The percentages of ethnic minorities and women working in A&D, at less than 25 percent, have not changed significantly in four decades, despite a major shift in the demographics of the United States. Moreover, only 16 percent of 12th graders are proficient in math and have expressed interest in a STEM-related career.

RECOMMENDATIONS:

- › Continue to pass legislation that enhances the pipeline of STEM-competent workers into the U.S. economy, including initiatives aimed at underrepresented demographics.
- › Craft legislation that will bolster economic competitiveness and job opportunities in the A&D industry, and encourage education and training programs required for both the existing workforce and new entrants.
- › Incentivize industry and the military to be more directly engaged with evaluating and hiring transitioning military personnel, such as creating a standard to process and categorize military skill sets.
- › Ensure federal incentives and/or grants are readily available to support industry, government, and academic partnerships that tailor training for high-level skills, professional education opportunities, and provide research-focused collaborations.
- › Pass visa legislation that encourages the retention of foreign professional STEM workers in U.S. industry.
- › Reform the security review process to expedite clearances, and ensure the implementation of an effective system that protects sensitive information and utilizes advanced technology to appropriately manage risk.

